Data Sheet | August 8, 2006 | FN6139.2

xDSL Differential Line Driver

The EL1517A is a dual operational amplifier designed for VDSL and ADSL line driving in DMT based solutions. This device features a high drive capability of 250mA while consuming only 7mA of supply current per amplifier and operating from a single 5V to 12V supply. This driver achieves a typical distortion of -80dBc, at 150kHz into a 25Ω load. The EL1517A is available in a 10 Ld HMSOP package and is specified for operation over the full -40°C to +85°C temperature range. The device has control pins C_0 and C_1 for controlling the bias and enable/disable of the outputs. These controls allow for lowering the power to fit the performance/power ratio for the application.

The EL1517A is ideal for ADSL, SDSL, HDSL2 and VDSL line driving applications. The “A” suffix is used only for package leadframe distinction between EL1517. All performance graphs in this datasheet were generated for EL1517IS and EL1517IL. There is no significant electrical difference between EL1517AIYE and the performance curves for EL1517IL.

The **EL1517A** can only be used for single supply operation. Use EL1517IL or EL1517IS for dual supply applications.

Ordering Information

PART NUMBER	PART MARKING	TAPE & REEL	PACKAGE	PKG. DWG. #
EL1517AIYE	BBJAA	-	10 Ld HMSOP	MDP0050
EL1517AIYE-T7	BBJAA	7”	10 Ld HMSOP	MDP0050
EL1517AIYE-T13	BBJAA	13”	10 Ld HMSOP	MDP0050
EL1517AIYEZ (Note)	BBKAA	-	10 Ld HMSOP (Pb-Free)	MDP0050
EL1517AIYEZ-T7 (Note)	BBKAA	7”	10 Ld HMSOP (Pb-Free)	MDP0050
EL1517AIYEZ-T13 (Note)	BBKAA	13”	10 Ld HMSOP (Pb-Free)	MDP0050

NOTE: Intersil Pb-free products employ special Pb-free material sets; molding compounds/die attach materials and 100% matte tin plate termination finish, which are RoHS compliant and compatible with both SnPb and Pb-free soldering operations. Intersil Pb-free products are MSL classified at Pb-free peak reflow temperatures that meet or exceed the Pb-free requirements of IPC/JEDEC J STD-020C.

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Features

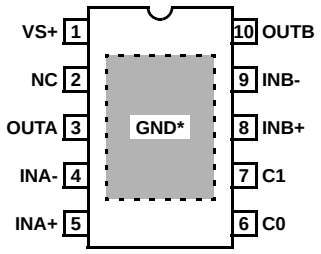
- Drives up to 250mA from a +12V supply
- $18V_{P-P}$ differential output drive into 50Ω
- $20V_{P-P}$ differential output drive into 100Ω
- -80dBc typical driver output distortion at full output at 150kHz
- -75dBc typical driver output distortion at 3.75MHz
- -60dBc typical driver output distortion at 8MHz
- -50dBc typical driver output distortion at 16MHz
- Low quiescent current of 7mA per amplifier
- 200MHz bandwidth
- Use for single supply applications
- Pb-free available (RoHS compliant)

Applications

- VDSL line drivers
- ADSL full rate CPE line driving
- G.SHDSL, HDSL2 line drivers
- HomePlug networking drivers

Pinout

EL1517A
(10 LD HMSOP)
TOP VIEW



THERMAL PAD MUST BE CONNECTED TO GROUND. PAD IS CONNECTED INTERNALLY TO V_S- AND THUS EL1517A CAN ONLY BE USED IN SINGLE SUPPLY APPLICATIONS.

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CAUTION: These devices are sensitive to electrostatic discharge; follow proper IC Handling Procedures.
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